15. THE QANUN OF THE LOWER GHIS RIVER (AITH WARYAGHAR):

312 [135] From this river, the longest of those which bathe the Central Rif (more than 70 km.), as with its companion and eastern neighbor the Nkur, only the surface waters are used, and very imperfectly, by the Rifians in the small meanders which its narrow basin forms. For the [648] Rifians there is too much water and not enough land. Up to the present, the Spanish protectors have not attempted the slightest modification nor the study of the Ghis basin and its regimen with utilitarian ends in mind. It is a wealth which, like so many others, is lost. There is too much water and nevertheless the Rif is thirsty. [132] The Rifian spends the whole year looking at the sky, an attitude which has become contagious to the protectors, imploring a few drops to fall in order to save his miserable winter (author's italics) harvest[125].....

In all the long basin of the Ghis one does not perceive the handiwork of man. Neither bridges nor acqueducts, neither dams nor any [487] installations to raise up its waters. Paths wind along its pebbly and steep banks to hide themselves in the dried-up stony bed. Small [402] and winding irrigation furrows timorously make haste to return suddenly the flow which they secretly absorbed, under the shelter of thickets, after (providing water to) move some small and rudimentary turbine mill. Only at the height of Targist, military techniques with their transportation of water give such a pessimistic sight a chance to change.

312 133 It is necessary to descend kilometers and kilometers down the steep bed of the river, to about some three kilometers from where it empties

7: Mikesell .K-4,5 (1955-1957) 1961 MX3 Rif MX3

Spartel as far as the western flank of Jbil Musa. Today this coast commands one of the world's great trade routes. For the Ancients the Pillars of Hercules marked the end of the known world, the very limits of civilization. In medieval time the Arabs rarely ventured into the Atlantic, and in the great age of exploration the Occidental Muslims limited their activity to piracy. For Morocco this coast has been a bond with Spain. By this almost terrestrial function the Strait of Gibraltar assumed a decisive role in Moroccan history. It was to guard the southern flank of Betica that Emperor Claudius created the province of Mauritania Tingitana in A.D. 46. The proximity of the two shores allowed Islam to conquer the Iberian peninsula, and the Spanish, in turn, to extend their influence to the Moroccan coast.

On the Mediterranean coast Morocco faces the great highway of civilization, but that shore, almost completely devoid of shelter, has never had an important maritime activity. A few fishing boats operate on calm days, but their sole function is to carry nets and seines a short distance beyond the surf. No road or trail of any significance follows this coast. Immediately east of the delta of Río Martín (Wad Martil) the coastline consists of a series of high cliffs cut by deep barrancas (pl. 1, *a*). This pattern, except for the small coastal plain formed by the deltas of Wad Ghis and Wad Nkour, continues as far as Melilla.

Climate

The climate of northern Morocco is of the Mediterranean type. In its simplest form this type of climate is characterized by (1) concentration of precipitation in winter and spring, the summers being nearly or completely dry; (2) warm to hot summers and mild winters; and (3) a high percentage of the possible sunshine for the year. From the Atlantic coast eastward to about 4° west longitude, irrigation is unnecessary for cereal crops. Within this zone the average annual precipitation ranges from 400 mm. to more than 1,000 mm. The extent of this range reflects the extreme contrasts of exposure and elevation. The drier zone, with precipitation totals of 400 mm. or less, begins on the eastern edge of the Rif chain.

Figure 6 was compiled from published records of forty-five weather stations for the decade 1946–1955. The former date is the earliest that can be used if conditions in the entire zone are to be compared. The records of a few stations extend to earlier years, and the Catholic Mission in Tangier has recorded weather observations since 1912. But data have become available for the interior of the zone only since the end of the Second World War.[1]

Precipitation decreases from north to south on the Atlantic coast, and from west to east on the Mediterranean coast. Tangier, with 810 mm. (31.9 in.), is the wettest coastal station in the zone. At Arcila, only 40 km. to the south, the total is 611 mm. (24 in.). On the Mediterranean coast, Ceuta with 560 mm. (22 in.) contrasts with Wad Lao with 460 mm. (18.1 in.), Puerto Capaz with 330 mm.

[1] For observations recorded prior to 1944, see *Resumen de las observaciones meteorológicas efectuadas en la zona de Marruecos hasta 1944* (Tetuán: Imprenta del Majzen, 1946). The years 1944–1946 are covered in a supplement published in 1947. Since the latter date, weather records have been published monthly in the *Boletín Mensual Climatológico del Servicio Meteorológico en Marruecos* (Tetuán: Imprenta del Majzen). For data on precipitation elsewhere in Morocco see *Atlas du Maroc*, Planche 4 *a*, "Précipitations annuelles" (Rabat: Comité de Géographie du Maroc, 1958), and the "Notice explicative" that accompanies the map.